Amendments to the Claims:

This listing of claims replaces and supersedes all prior versions, and listings, of claims in the application:

Listing of Claims:

1-7. (Cancelled).

8. (Previously Presented) A proton conductor gas sensor comprising:

a sensor body having a membrane electrode assembly (MEA) comprising an electrolyte membrane, a sensing electrode, and a counter electrode, and a water reservoir positioned at one side of the sensor body and supplying water vapor to the membrane electrode assembly;

a cap body including a cap, a bottom plate, and filter material provided between said cap and said bottom plate, said cap having at least one first opening and said bottom plate having ~~an~~ a second opening for introducing ambient atmosphere towards said membrane electrode assembly from an opposite side of the membrane electrode assembly to the water reservoir; and

a thin nonporous, metal plate between said ~~cap~~ bottom plate and said membrane electrode assembly, having a diffusion control hole connected to the second opening of

the ~~cap~~ bottom plate and having a smaller diameter than that of the ~~second~~ opening of the ~~cap~~ bottom plate.

9. (Cancelled)

10. (Previously Presented) The proton conductor gas sensor of claim 8, wherein said diffusion control hole is made mechanically by a punching process.

11. (New) The proton conductor gas sensor of claim 8, wherein said MEA further comprising a first carbon film disposed on said sensing electrode and a second carbon film disposed on said counter electrode.

12. (New)The proton conductor gas sensor of claim 11, wherein said first and second carbon films are porous for distributing gases to the sensing and counter electrodes.

13. (New) The proton conductor gas sensor of claim 8, wherein said bottom plate and said cap are connected at a periphery of said bottom plate, and said thin nonporous, metal plate is connected on a first side with said bottom plate and on a second side with said MEA, thereby providing an electrical path from said MEA to said cap.

14. (New) A method for making a proton conductor gas sensor comprising steps of:

gelling silica fine powder by mixing with water and kneading;

setting the gel into a can creating a water reservoir;

mechanically punching a diffusion control hole in a thin nonporous metal plate to make a diffusion control plate;

setting a membrane electrode assembly (MEA) comprising an electrolyte membrane, a sensing electrode, and a counter electrode, onto said can;

setting said diffusion control plate onto said MEA on a side opposite said water reservoir;

setting a cap body onto said diffusion control plate, said cap body having a cap and a bottom plate with a filter material being provided between said cap and said bottom plate, said cap having at least one first opening, said bottom plate having a second opening for introducing ambient atmosphere towards said MEA from a side of the membrane electrode assembly opposite the water reservoir, and said second opening being larger than said diffusion control hole; and

sealing said sensor.